Proposal for a Cruise Ship Monitoring Program in Bar Harbor 2005

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Background

The MDI Water Quality Coalition initiated a citizen-based cruise ship monitoring project in May 2004 after community members expressed concern about cruise ship industry compliance with new state legislation. The new legislation, *An Act to Protect Maine's Coastal Waters*, enacted in April 2004, prohibits discharge of graywater or a mixture of graywater and blackwater and requires licensing by 2006 of advanced wastewater treatment systems for ships discharging in the coastal waters of Maine. The Bar Harbor harbormaster's boat was used to transport monitors alongside ships in order to sample water for phytoplankton, temperature, salinity, dissolved oxygen, biological oxygen demand, *Enterococcus* bacteria, transparency, chlorine, and nitrogen. Water samples were analyzed at the Community Environmental Health Laboratory, a research and education collaborative with the MDI Biological Laboratory. Water was sampled near 31 cruise ships between May and November 2004. No significant long-term effects on the water quality in Bar Harbor were detected. Two ships discharged contaminated water; these were not members of the International Council of Cruise Lines (ICCL). ICCL ships (10 in all) appeared to be in full compliance with new state legislation. As a result of this project, the MDI Water Quality Coalition is making recommendations to the cruise ship industry, the town of Bar Harbor, the Maine State DEP, and community members. These include increased awareness of state and local regulations, support and funding for local citizen groups to ensure monitoring during future cruise ship seasons, clearly stated local harbor regulations, clearly interpreted and stringently enforced state legislation, and increased community involvement.

Proposal

What is our 2005 plan?

We plan to monitor the water quality around visiting cruise ships in 2005, using similar protocols to those used in 2004 (see our 2004 Cruise Ship Water Quality Report). We will be expanding our studies to include the cruise ship lane and Anchorage Bravo. We will be looking more closely at nitrogen and chorine throughout the season. We have invited Joe Payne, Baykeeper with the Friends of Casco Bay, to visit Bar Harbor and learn about our monitoring program and give us input about our methodologies. We hope to collaborate with Friends of Casco Bay on a statewide citizen-based cruise ship water quality-monitoring program in the future. We have added the cruise ship project to the forum on our website and will be encouraging citizens to submit questions and comments to us and to each other using this on-line forum.

What do we need?
Last season, we devoted a significant amount of administrative time to overseeing the cruise ship project, including volunteer recruitment, scheduling of sampling and lab days, communications with the town, and managing data. We need support to continue focusing our energies in this direction. We need to recruit a summer student intern to head up the summer monitoring with volunteers and we need to recruit research fellows in the fall to finish monitoring, analyze data, and help to produce the final report. We are designing sampling equipment that will help interns and volunteers collect water samples without leaning over the side of the boat. We have created a new safety policy with the cruise ship monitoring in mind. Tom Lawrence Enterprises will be constructing equipment to our specifications. We also need support for the Community Environmental Health Laboratory, as this project significantly extends our water quality monitoring season into late fall. We need to devote additional staff time to administration of the lab through the cruise ship season and to extend our rental agreement with the MDI Biological Laboratory.

Where are our samples analyzed?
The Community Environmental Health Laboratory is a unique environmental research space on Mount Desert Island. It is located at the MDI Biological Laboratory and we work collaboratively to offer internships to students and teachers and make it possible for citizens to answer questions they have about water quality in their bays, at their swim beaches and in their watersheds. The Community Lab was established in 2000; we have 5 years of experience with collecting water quality data and establishing data sets with student interns, research fellows, and citizen volunteers. The Community Lab has an EPA-approved quality assurance project plan that guides protocols and lab procedures. We will send water samples to the Mitchell Center at the University of Maine for nitrogen analysis, since we have learned that the test kits used last season may be best suited to freshwater studies.

What do we hope to accomplish?
We hope to engage a cross-section of citizens in water quality monitoring in Frenchman Bay. It is important for people to see for themselves what the real issues are around Bar Harbor. Last summer, discharge of contaminated water from one cruise ship was inadvertent—a conversation between agent and harbormaster was all that was needed to resolve the problem. Another instance of discharge of contaminated water could have been avoided with clear communication of harbor regulations by the harbormaster. This year, all ships coming into harbor will understand those regulations. This project has raised awareness on the part of the harbor committee, the harbormaster, and the citizens of Bar Harbor. This second year of monitoring will extend our sampling into the cruise lanes and the second anchorage visible from Hulls Cove. Citizen volunteers and student interns and research fellows will develop a more complete picture of water quality issues in Frenchman Bay. We will produce a summative report based on two years of sampling. We hope to make our monitoring protocol available to other groups in New England and around the country interested in stewardship of their bays.

Time Line

May 2005 -- Order equipment and supplies, design field data sheet, set up Access database, hire summer intern.

June 2005 -- Recruit and train citizen volunteers and interns.

June 2005 -- Publish press releases about the project, inviting use of our on-line forum.

June through November 2005 --Water quality monitoring 1-3 times per week, data entry and analysis.

July 2005 -- Train Friends of Casco Bay staff member to monitor around cruise ships and invite critique of our protocol.

November 2005 -- Write Cruise Ship 2-year report, post on website.

Budget

Item	Request from ICCL	Matching Funds	Total
Administrative Costs Executive Director Outreach Coordinator	 $8,000 $4,000	 $12,000 (EPA)	 $ 8000 $16000
Summer Intern Stipend	$4,000		$ 4,000
Research Fellows (2)	$5000		$ 5,000
Mileage to Bar Harbor and Lab	$1,000		$ 1000
Lab Costs	$6,000		$ 6,000
Web-site Forum	$2,500	$ 1,326 (EPA)	$ 3,826
Baykeeper Training Stipend for Joe Payne, travel and lodging.	$5,000		$ 5,000
Office Costs	$3,000		$ 3,000
Report Printing	$1,600		$ 1,600
Water Resistent Camera	$ 400		$ 400
Equipment Safety Up-grades	$ 500		$ 500
Life Vests	$ 500		$ 500
Supplies for *Enterococcus* testing	$3,000		$3,000
Nitrogen testing	$1,100	$700 (Bar Harbor)	$1,800
Oxygen and BOD studies, Chlorine	$ 600	$700 (Bar Harbor)	$ 1,300
	$46,200	$ 14,726	$60,926